

In the Claims

1-23 (canceled).

24 (currently amended). A method for treating an autoimmune or inflammatory disease ~~or preventing autoimmune, inflammatory, or infectious diseases~~ comprising the administration of an effective amount of a monomeric variant ~~of~~ to an individual having an autoimmune, inflammatory, ~~or infectious~~ or inflammatory disease, wherein said variant result from at least one amino acid substitution that alters the pattern of hydrogen bonds at the dimerization interface of said chemokine wherein MCP-1 signaling is involved in the autoimmune or inflammatory disease process and said monomeric variant comprises:

- a) SEQ ID NO: 2 (CCL2-P8A);
- b) SEQ ID NO: 4 (CCL2\*-P8A);
- c) SEQ ID NO: 2 or SEQ ID NO: 4 with the substitution of a Cysteine in position 8, 14 or 17;
- d) SEQ ID NO: 2 or SEQ ID NO: 4 with the substitution of an Alanine or a Glycine in position 1; or
- e) SEQ ID NO: 2 or SEQ ID NO: 4 with the addition of a Cysteine at the C-terminus.

25 (canceled).

26 (currently amended). The method according to ~~claim 25~~claim 24, wherein said monomeric variant comprises SEQ ID NO: 2.

27 (canceled).

28 (currently amended). The method according to claim 24, wherein said monomeric variant ~~does not contain a mutation in position 9, 10, or 13 of SEQ ID NO: 2 and~~ comprises SEQ ID NO: 4.

29 (currently amended). The method according to claim 24, wherein said monomeric variant contains a Cysteine in position 8, 14 or 17 of SEQ ID NO: 2, in the corresponding sequence of SEQ ID NO: 2 and SEQ ID NO: 4:

- a) ~~—— a Cysteine in position 8, 14, 17, or 77; or~~
- b) ~~—— an Alanine or a Glycine in position 1.~~

30 (currently amended). The method according to claim 24, wherein said monomeric variant further comprises a constant region of a human immunoglobulin heavy chain.

31-36 (canceled).

37 (currently amended). The method according to ~~claim 36~~claim 24, wherein the disease is multiple sclerosis.

38 (withdrawn-currently amended). A method for producing ~~the~~a fusion polypeptide comprising:

- a) cloning of the nucleic acid sequence encoding the mature CCL2-P8A in an expression vector fused to a nucleic acid sequence encoding the human CCL2 signal sequence at its 5' end, and the nucleic acid sequence encoding the constant region (segment 243-474) of human immunoglobulin lambda heavy chain IgG1 at its 3' end;
- b) transforming a CHO or HEK293 cell line with the resulting vector;
- c) selecting the clones stably expressing and secreting the recombinant fusion protein having CCL2-P8A at the N-terminus and the IgG1 sequence at the C-terminus; and
- d) purifying the fusion protein from the culture medium.

39 (withdrawn). A method for screening for obligate monomeric antagonist chemokine variants described herein comprising:

- a) making single point mutations in CCL2 that block its ability to dimerize;
- b) identifying said variants that bind to the receptor and show agonistic properties in vitro; and
- c) identifying said variants from the group identified in (b) above that are further characterized as inhibiting peritoneal cell recruitment.

40-43 (canceled).

44 (currently amended). The method according to claim 24, wherein said monomeric variant comprises SEQ ID NO: 2 and said ~~autoimmune, inflammatory, or infectious~~ autoimmune or inflammatory disease is multiple sclerosis.

45 (new). The method according to claim 24, wherein said monomeric variant comprises SEQ ID NO: 2 and an additional Cysteine at the C-terminus.

46 (new). The method according to claim 24, wherein said monomeric variant comprises SEQ ID NO: 4 and an additional Cysteine at the C-terminus.

47 (new). The method according to claim 24, wherein said monomeric variant contains an Alanine or a Glycine in position 1 of SEQ ID NO: 2.

48 (new). The method according to claim 24, wherein said monomeric variant contains an Alanine or a Glycine in position 1 of SEQ ID NO: 4.

49 (new). The method according to claim 24, wherein said monomeric variant contains a Cysteine in position 8, 14 or 17 of SEQ ID NO: 4.